

Appl. No. 10/584,186
Amdt. dated June 3, 2009
Reply to Office action of March 4, 2009

AMENDMENTS TO THE DRAWINGS:

The attached sheet of drawings includes changes to Fig. 7. This sheet, which includes Fig. 6-7, replaces the original sheet including Fig. 6-7. In Figure 7, reference numeral 16 has been changed to "14."

Attachment: Replacement Sheet

 Annotated Sheet Showing Changes

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REMARKS

Claims 10-13, 15, 16, and 18 are presently in the application. Claims 14 and 17 have been canceled. New claims 19-25 are presented herein by amendment. The above amendments are being made to place the application in condition for allowance.

Claims 10-12, 15, and 17 were objected to for minor informalities which have been corrected by amendment. Applicant disagrees with the examiner's comments with respect to claim 10, that "roller bearing the friction brake lining is movably" should be -- roller bearing and the friction brake lining are movably--, since this wording is as intended by the invention and as such the language remains unchanged.

The drawings were objected to because reference numeral "40" is not mentioned in the specification and because numeral "16" in Fig. 7 should be brake lining "14." Accordingly, reference numeral "40" has been added to paragraph [0036] as "imaginary traverse center line 40" and reference numeral "16" has been changed to --14-- in Fig. 7.

Claim 17 was rejected under 35 U.S.C. 112, second paragraph, as being indefinite for the limitation "they brace the friction brake." Accordingly, "they" has been changed to --the roller bodies--.

Reconsideration of the rejection of claims 10 - 18 under 35 U.S.C. 102(b) as being anticipated by US Patent No. 6,318,513 to Dietrich et al, is respectfully requested.

The invention is directed to a self-boosting electromechanical friction brake, comprising a friction brake lining which is movable in a direction of rotation and into contact with a brake body,

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an electromechanical actuation device with which the friction brake lining can be pressed for braking against the brake body,

a ramp mechanism which braces the friction brake lining at a ramp angle to the brake body, the ramp mechanism having a roller bearing that has roller bodies, with which roller bearing the friction brake lining is movably supported at a wedge angle to the brake body, and

roller support means supporting the roller bodies fixedly and rotatably on a component of the friction brake.

Amended claim 10 recites additionally: *wherein axes of rotation of the roller bodies have a transverse inclination, so that the roller bodies brace the friction brake lining centrally to an imaginary circular circumferential line with its center on an axis of rotation of the brake body which divides a surface, oriented toward the brake body, of the friction brake lining into two faces of at least approximately equal size.* (Subject matter of canceled claim 14)

New claim 19 recites additionally: *wherein the roller bodies are offset in a displacement direction of the friction brake lining such that the roller bodies brace the friction brake lining centrally to an imaginary center line, which extends transversely to the displacement direction of the friction brake lining and divides the surface, oriented toward the brake body, of the friction brake lining into two faces of at least approximately equal size.* (Subject matter of canceled claim 17)

Dietrich et al is relied upon for disclosing a movable friction element 16, brake disk body 12, an electromechanical actuation device 32, 34, 36, wedges 18 on the ring 14 (brake lining holder), bolts 30 (roller bodies) on bolt carrier 26 (stationary abutment plate). The friction brake has the carrier ring 14 disposed coaxially to the brake disk 12 and has friction linings 15 on its side toward the brake disk 12. On its side facing away from the brake disk 12, the carrier ring 14 is equipped with wedges 18, whose ramps rise respectively in and counter to the direction of the rotation of the brake disk. Roller bodies 30 are braced on the ramps 18 and in turn are supported rotatably in an annular bolt carrier disposed in stationary fashion. By the resultant rolling motion of the roller bodies on the ramps of the carrier ring, this carrier ring is moved in the direction of the brake disk, and thus the friction brake linings are pressed against the brake disk. The ensuing reaction acts back on the carrier ring and is converted by the ramps and the roller bodies into a supplementary force that reinforces the contact pressure (self-boosting effect).

In the known friction brake, precisely one roller body is associated with each ramp of a wedge, and the longitudinal axis of the roller body extends transversely to the direction of displacement of the carrier plate. Such an arrangement cannot prevent sliding of the roller bodies on the ramp instead of rolling on them as intended, and thus cannot prevent a translational motion ("creeping") of the carrier plate relative to the brake disk. As a result, in this prior art mutually centering of the carrier plate and brake disk is not assured under all circumstances, as compared to the present invention.

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According to the invention, the subject of amended claim 10 and new claim 19 is distinct over Dietrich et al. In particular, this distinction over the prior art of centering is achieved by the transverse inclination of the axes of rotation of the roller bodies which causes the roller bodies to brace the friction brake lining centrally to an imaginary circular circumferential line with its center on an axis of rotation of the brake body which divides a surface of the friction brake lining into two faces of at least approximately equal size, as recited in claim 10.

This is also achieved by the roller bodies being offset in a displacement direction of the friction brake lining such that the roller bodies brace the friction brake lining centrally to an imaginary center line, which extends transversely to the displacement direction of the friction brake lining and divides the surface of the friction brake lining into two faces of at least approximately equal size, as recited in claim 19.

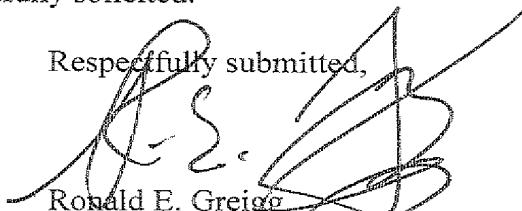
Dietrich et al lacks any such arrangements of the roller bodies.

Accordingly, Dietrich et al et al does not anticipate the present invention under 35 U.S.C. 102 (b) and withdrawal of the rejection is respectfully requested.

Accordingly, as the dependent claims recite additional limitations, withdrawal of the rejection is respectfully requested.

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Entry of the amendment is respectfully solicited.

Respectfully submitted,

Ronald E. Greigg
Registration No. 31,517
Attorney of Record
CUSTOMER NO. 02119

GREIGG & GREIGG P.L.L.C.
1423 Powhatan Street
Suite One
Alexandria, VA 22314

Telephone: (703) 838-5500
Facsimile: (703) 838-5554

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